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On the genus *Aglossa* of Turkey with description of a new species (Lepidoptera, Pyraloidea)

Muhabbet Kemal[1] Sibel Kızıldağ Ahmet Ömer Koçak

Abstract: On the genus *Aglossa* of Turkey with description of a new species (Lepidoptera, Pyraloidea). *Misc. Pap*. 207: 1-7, 12 figs. 1 map

This paper deals the description of a new species, *Aglossa republicana* from SE Turkey. Distributions, habitat preferences of five *Aglossa* species in Turkey are discussed. *Aglossa asiatica* is new for the fauna of Iğdır Province. Male genitalia and adults of three species are illustrated. Genetic distances of three species are evaluated and discussed.

Key words: *Aglossa republicana, asiatica, arcuatalis, caprealis, pinguinalis,* Pyralinae, Pyraloidea, Lepidoptera, Turkey, description, new species, fauna, morphology, habitat, genitalia, DNA barcodes.

During the field studies of the authors in SE Turkey, Siirt Province (Şirvan) in 2013, an interesting specimen of Pyraloidea was found. At the first glance, it resembles to a *Venturina* species externally. Closer examinations and the genitalic structure of this single male reveal that this specimen belongs to the genus *Aglossa* Latreille, 1796 (type-species: *Phalaena pinguinalis* Linnaeus,1758). One of the external characteristic features of this genus is the absence of the proboscis. Among the currently valid west palaearctic species of this genus, *signicostalis*, described by Staudinger (1870) from Greece, is known from Balkans with the nominate subspecies. In the East Mediterranean Region, the taxon *arcuatalis* was described by Zerny (1914) from Haifa as a distinct species. This is currently considered as a valid name of the subspecies of *signicostalis* Stgr. Leraut (2003) placed it at the subspecific level, and this proposal is currently accepted. This subspecies occurs also in Turkish coastal region of Adana Province (Leraut, 2014). Other *Aglossa* species known from Turkey are: *Aglossa pinguinalis*, *Aglossa caprealis*, and *Aglossa asiatica*. The faunistic representation of the *Aglossa* species in Turkey is given below after the description of the new species.

Among the *Aglossa* species in Turkey, the specimen from Şirvan resembles to *signicostalis* and to its East Mediterranean representative ssp. *arcuatalis* to some degree. The DNA barcode of *signicostalis* was not accessable in the Bold Systems. However, we had a chance to evaluate the genetic distance between the specimen from Şirvan and ssp. *arcuatalis* from Anamur (İçel Province, South Turkey), preserved in coll. Cesa.

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Pyralinae Latreille,1809

Aglossa Latreille, 1796

Aglossa republicana sp.n. (Figs. 1-6, Map 1)

http://zoobank.org/urn:lsid:zoobank.org:act:D29205BD-D50C-43F9-9FD5-5BD0E06FF8E4

Description:

Holotype ♂. Fore-wing 8mm, wing-span 18mm.

Body somewhat robust. Vertex, palpus maxillaris and palpus labialis covered by dark yellowish scales **(Figs.1-2)**. Antenna filiform, long. Tegulae covered yellowish scales. Forewing triangular. Costa almost straight. Apex round. General colouration of upperside dark brown. Basal and median yellowish markings indistinct. Postdiscal yellowish band well marked, complete but with unsharp borders. Hindwing upperside dark brown. Only postdiscal yellowish band more or less developed. On the underside of both wings colouration and markings similar but basal and median yellowish markings lost. Thorax and abdomen covered by yellowish brown scales. Ciliae bi-coloured **(Figs.3-4).**

Male genitalia **(Fig.5):** Uncus broad triangular, pointed at tip. Gnathos longer than uncus, terminally curved slightly and pointed. Valva somewhat triangular, simple. Its costa slightly sinuous. Apex round. Juxta bilobed. Saccus very short. Aedeagus cylindrical, long, with a large cornutus. Terminal abdominal segments are illustrated **(Fig.6).**

Diagnostic characters on the morphology: This new species is somewhat closer to *Aglossa s. arcuatalis* externally. But it is easily distinguishable from it not only by the external features, but also the genitalic structure of the male (shape of uncus, gnathos, juxta, valva, saccus, and aedeagus) **(Figs. 7-10)**. It is also distinguishable from *Aglossa asiatica* by its external and genitalic structures **(Figs. 11,12)**. The molecular evidences support the validity of the new species with the high genetic distances (see below).

Comparison of the habitats: This new species inhabits in a natural habitat. It is first recorded place, where may be defined as *Querco-Astragaletum* association. *Aglossa pinguinalis* is usually reported from anthropogenic places. Similar case may also be seen in *Aglossa caprealis*. As to the other *Aglossa* species in Turkey, the authors collected the specimens of *Aglossa s. arcuatalis* from Anamur at scrubland (maquis formation, characteristic of coastal regions in the Mediterranean) very far from human settlements. Similarly, *Aglossa asiatica* occurs in Irano-Turanian zoogeographic region with the main plant cover of *Astragalatea*.

Material studied: 1♂ (Holotype): South East Turkey, Siirt Province, Şirvan, Akgeçit 1210m, 56F1, 3.vii.2013, *Querco-Astragaletum*, M.Kemal & A.Koçak leg. (Coll. Cesa).

DNA Voucher: Lep Pyr075-Cesa (Genbank of the Cesa).

Other material studied: *Aglossa signicostalis* ssp. *arcuatalis*: 8♂. South Turkey, İçel Province, Anamur, Pınarlar 475m (33Ad), in scrubland vegetation, 19.viii.2015, M.Kemal & A.Koçak leg. (Cesa). DNA Voucher: Lep Pyr080-Cesa (Genbank of the Cesa). - 3♂. *Aglossa asiatica*: East Turkey: Van Province, Çatak, Saklıvadi 2030m (65Df), 25.vi.2017, M.Kemal & A.Koçak leg. (Cesa). DNA Voucher: Lep Pyr082-Cesa (Genbank of the Cesa). 1♂. Van Province, Bahçesaray, Liman, Populetum 2320m, 16.vii.2017, M.Kemal & A.Koçak leg. (Cesa). 1♂. Iğdır Province, Tuzluca, Gaziler 1080m (76Dc), 24.vi.2019, M.Kemal & A.Koçak leg. (Cesa). - *Aglossa* sp.: 1♀. South Turkey, Antalya Province, Alanya, Kargıcak 100m, 18.viii.1985, A.Koçak leg. (Cesa).

Etymology: The Ottoman Empire was ruled by absolute monarchy until 1876. In this period, the sultan's institution maintained an absolute sovereignty over the people. In 29 October 1923, with the adoption of the constitutional amendment proposals prepared by Mustafa Kemal, The state structure of Turkey is determined by the Grand National Assembly of Turkey as the Republic of Turkey. The proclamation of the republic is part of the Turkish Revolution, which aims to modernize the Turkish society.

Today, there are serious threatening the integrity of Turkey. Against those who want to divide our paradise homeland, we are struggling with the "Spirit of Independence War" started by Gazi Mustafa Kemal Atatürk. What Gazi Mustafa Kemal called 'My greatest work' is the Republic of Turkey and Atatürk entrusted it to future generations. Therefore we dedicate this new species to remind the name of the Republic of Turkey.

DNA barcoding and species delimitations of the selected *Aglossa* populations

The genetic distance of *Aglossa signicostalis* ssp. *arcuatalis* from Anamur and *Aglossa asiatica* from Çatak is 8.34% Similarly, the distance between *A. s. arcuatalis* and *A. republicana* **sp.n.** from Siirt is 15.4%. The genetic distance between the *A. republicana* **sp.n**. and the *A. asiatica* from Çatak population is 10.51%. (Kimura, 1980; Tamura *et al*.,2013). Despite the morphological similarity within the genus, there is a very high genetic distance among the species. *A. republicana* **sp.n.** morphologically different from other similar species, namely autoapomorphic features. This species should also be evaluated with its distribution area and different populations. Apparently, the emergence of autoapomorphic features leads to the decision that the species remains isolated and its endemism should be questioned or the subject of the subgenus should also be discussed. However, more molecular studies are needed to solve this issue.

Aglossa species in Turkey

(* means living at anthropogenic habitat)

Aglossa pinguinalis (Linnaeus,1758)* **(Map 1)**

Original reference: *Phalaena pinguinalis* Linnaeus,1758, Syst. Nat. (Edn.10) 1: 533. Lectotype ♀: [Europa] (Robinson & Nielsen, 1983: 224).

Previous faunistic records in Turkey:
Aglossa pinguinalis: Mann,1862, Wien. ent. Monatschr. 6: 383 Bursa Province: “in Gebäuden nicht selten”.
Aglossa pinguinalis: Lederer,1865, Annls Soc. ent. Belg. 9: 71 “Kisilgye-Aolé”.
Aglossa pinguinalis: Staudinger,1879, Horae Soc. ent. ross. 15: 161 “einige Stücke im Hause” [Amasya Prov.].
Aglossa pinguinalis: Seebold,1898, Dt. ent. Z., Iris 11: 22 “Caucasus”.
Aglossa pinguinalis: Rebel,1933, Annln. Naturh. Mus. Wien 46: 13, nr.185 “Ankara”.
Aglossa pinguinalis: de Lattin,1951, Ist. Univ. Fen Fak. Mec. (Ser. B) 16 (1): 66 [İstanbul Prov.]: Bebek.
Aglossa pinguinalis: Akın,2014. Mutki ilçesi (Bitlis) Pyralidae (Lepidoptera) faunası ve ekolojisi üerine araştırmalar (doktora tezi):308. “Bitlis”.
Aglossa pinguinalis: Koçak & Kemal,2018. Memoirs 8: 279, nr. 3940 Adana, Amasya, Ankara, Artvin, Bursa, Hatay, İçel, İstanbul, İzmir, Konya, Manisa.

Remarks: For the identity of *Aglossa pinguinalis*, we used the morphological characters and genitalic illustrations given by Slamka (2006), Leraut (2014), Ylla *et al*. (2017).

Aglossa caprealis (Hübner,[1809])* **(Map 1)**

Original reference: *Pyralis caprealis* Hübner,[1809], Samml. eur. Schmett. 6, Pyralides: Tab.23 fig.153 Type(s): Europa.

Previous faunistic records in Turkey:
Pyralis cuprealis: Zeller,1847, Isis v.Oken 1847: 22 [İstanbul Prov., Beyoğlu]: “Pera”.
Aglossa cuprealis: Mann,1862, Wien. ent. Monatschr. 6: 383 Bursa Province: “einige in Zimmern”.
Aglossa cuprealis: Lederer,1865, Annls Soc. ent. Belg. 9: 71 “Kisilgye-Aolé”.
Aglossa cuprealis: Staudinger,1879, Horae Soc. ent. ross. 15: 161 “Kerasdere” [Amasya Prov.].
Aglossa cuprealis: Seebold,1898, Dt. ent. Z., Iris 11: 22 “Caucasus”.
Aglossa cuprealis: De Lattin,1951, Ist. Univ. Fen Fak. Mec. (Ser. B) 16 (1): 66 [İstanbul Prov.]: Bebek.
Aglossa caprealis: Koçak & Kemal,2018. Memoirs 8: 279, nr.3939 Amasya, Bursa, Hatay, Istanbul, Manisa.

Aglossa signicostalis Stgr.,1870, ssp. ***arcuatalis*** Zerny,1914 **(Figs.7-10, Map 1)**

Original reference: *Aglossa arcuatalis* Zerny,1914, Annln. naturh. Mus. Wien 28 (3/4): 320, pl. xxv fig.21 mentioned as "*Pyralis arcuatalis*". Type ♂: [Israel]: "Haifa, Syrien".

Previous faunistic records in Turkey:
Aglossa arcuatalis: Koçak & Kemal,2018. Memoirs 8: 279, nr.3937 Antalya: Alanya [?], İçel: Anamur.

Remarks: Currently known from Adana (Leraut,2014) and Anamur (İçel Prov.) (Koçak & Kemal,2018). Its genetic distance from *asiatica* and *republicana* is high (see above).

Aglossa asiatica Erschoff,1872 **(Figs.11,12, Map 1)**

Original reference: *Aglossa pinguinalis* var. *asiatica* Erschoff,1872, Horae Soc. ent. ross. 8: 317. Syntypes: [Uzbekistan]: "Samarkand".

Previous faunistic records in Turkey:
Aglossa asiatica: Rebel,1934, Annln. Naturh. Mus. Wien 47: 56, nr.164 Ankara: Kapaklı.
Aglossa asiatica (bona sp.): Osthelder,1935, *Mitt. münch. ent. Ges.* 24 (1934) (3): 93 Maraş, "YD" means Yüksek Dağ, a part of Düldül Dağ in Amanos (*cf.* Footnote: *Mitt. münch. ent. Ges.* 33 (2): 45).
Aglossa asiatica: Leraut,2014, Moths of Europe 4: Pyralids 2: 138, pl.5 fig.21 "Turkey".
Aglossa asiatica: Kemal & Koçak, 2017, Priamus 14 (4): 163 . Van Prov. Bahçesaray: "65Am4" (Mukus valley)
Aglossa asiatica: Koçak & Kemal,2018. Memoirs 8: 279, nr.3938 Ankara, Kahramanmaraş, Van.

Remarks: For the identity of *Aglossa asiatica*, we used the morphological characters and genitalic illustrations given by Slamka (2006), Leraut (2014), Zilli & Pavesi (2015). Here the authors report this species from Çatak (Van Prov.) and Tuzluca: Gaziler (Iğdır Prov.) for the first time. New for the fauna of Iğdır Province.

***Aglossa republicana* sp.n.** **(Figs.1-6, Map 1)**

Present paper.

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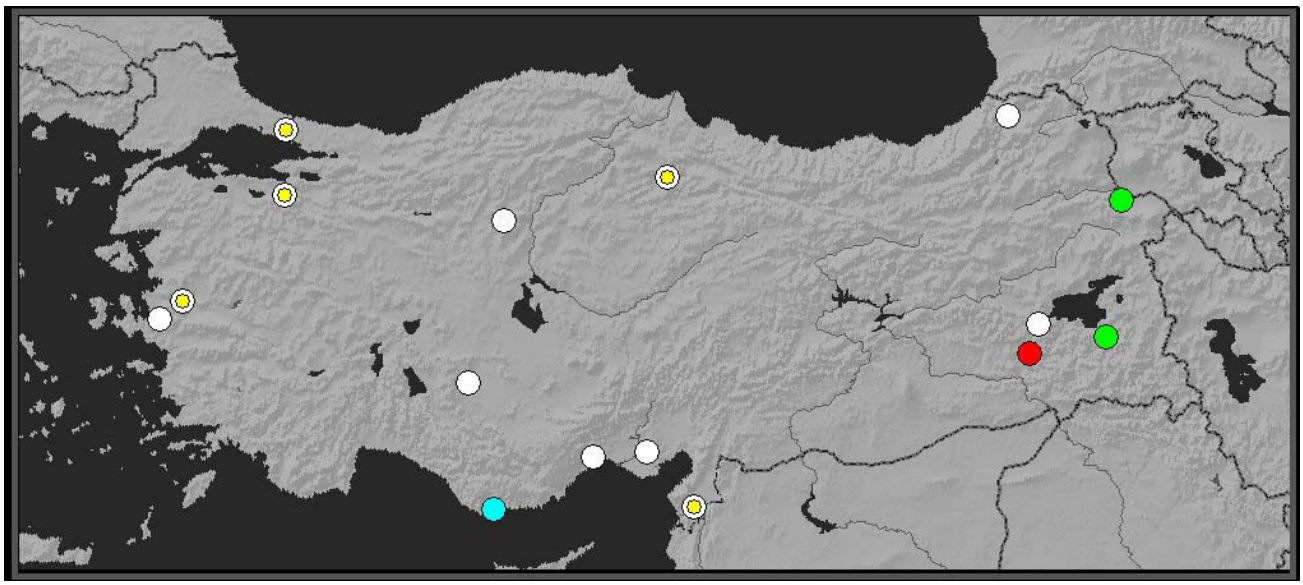
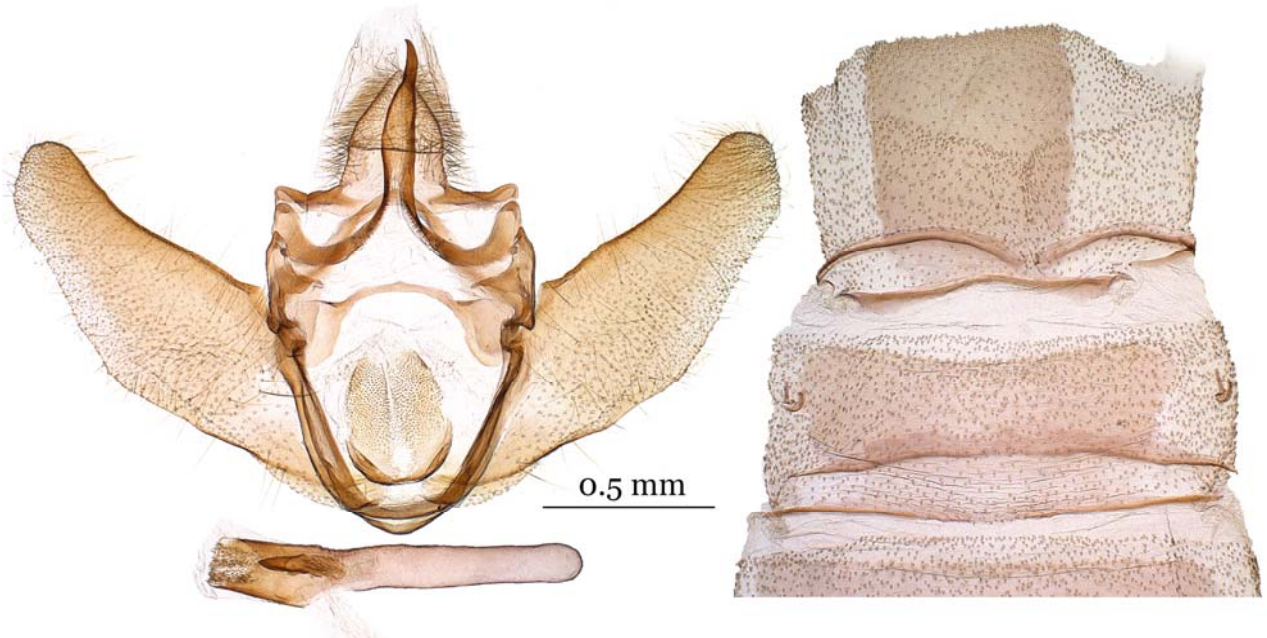
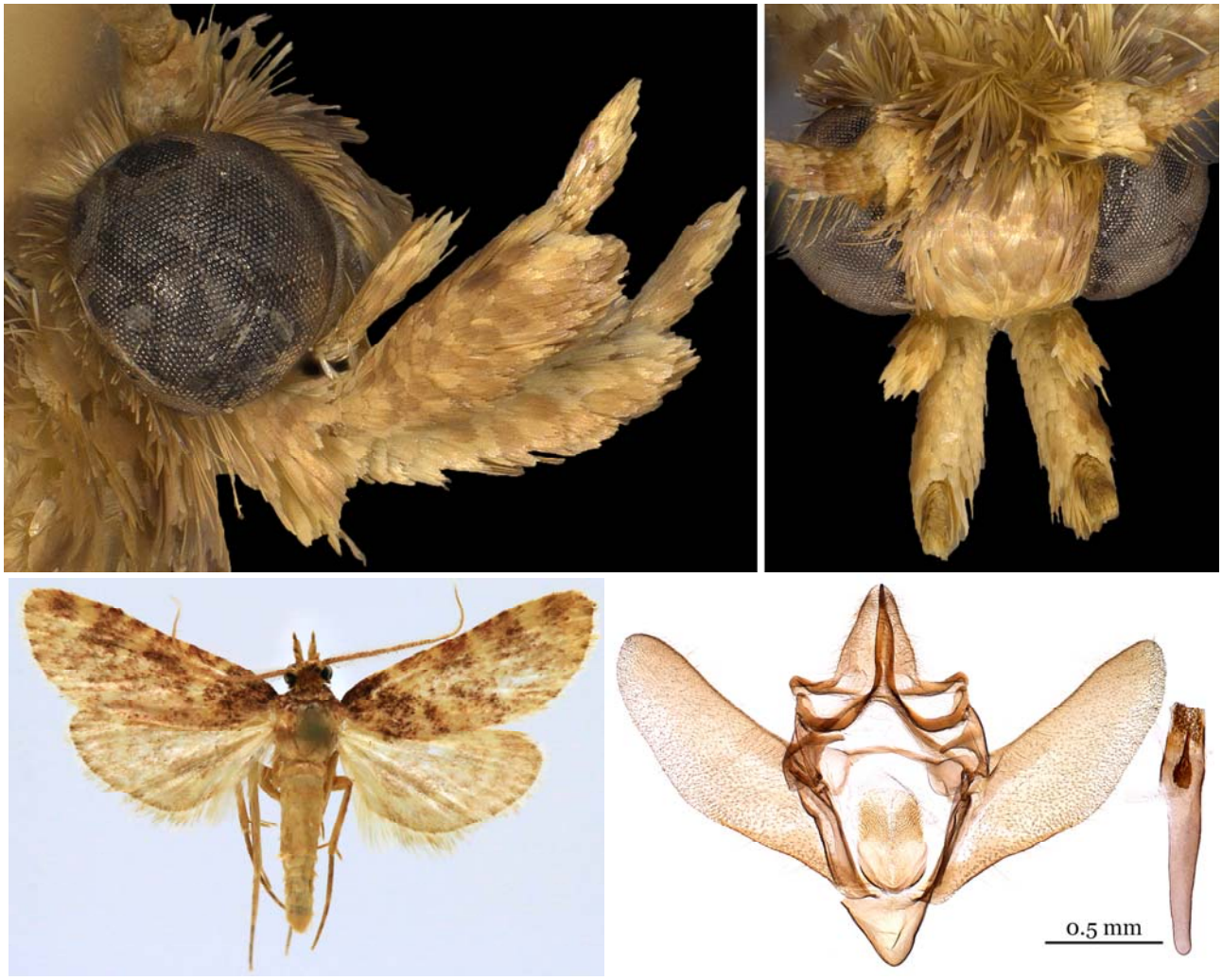


Map 1 – Distribution of *Aglossa* species in Turkey.
pinguinalis white, *caprealis* yellow, *arcuatalis* blue, *asiatica* green, *republicana* **sp.n.** red.

Figs. 1-4 - *Aglossa republicana* **sp.n**. Holotype (male). Lateral and dorsal view of head (top). Upperside and underside of holotype (bottom left and right). M. Kemal (Cesa).



Figs. 5, 6 - *Aglossa republicana* **sp.n**. Holotype (male). Genitalia (GP3209) and terminal abdominal segments. M. Kemal (Cesa).



Figs. 7-10 – *Aglossa signicostalis* ssp. *arcuatalis*. Head of male, lateral and dorsal view (top). Upperside of male amd its genitalia (GP3215) (bottom). South Turkey, İçel Prov., Anamur, Pınarlar. M. Kemal (Cesa)

Figs. 11, 12 – *Aglossa asiatica*. Upperside of male and its genitalia (GP3229). East Turkey: Van Prov., Çatak, Saklıvadi 2030m. M.Kemal (Cesa).

http://zoobank.org/References/350E3BA3-34D1-4965-939C-95BCE289B981

On the nomenclature of a generic name of Arctiinae (Lepidoptera)

Muhabbet Kemal[2] Sibel Kızıldağ Ahmet Ömer Koçak

Abstract: On the nomenclature of a generic name of Arctiinae (Lepidoptera). *Misc. Pap*. 207: 8-9. In this paper, a generic replacement name *Avolynkinia* nomen novum in the subfamily Arctiinae is proposed.
Key words: replacement name, nomenclature, Arctiinae, Lepidoptera.

During the investigations of the authors in the database systems of the Cesa, for the purpose of updating the names and the references, the generic name *Striatella*, established in 2019, has been found as invalid as it was a junior homonyms of two generic names *Striatella* Brot,1870 and *Striatella* Westerlund,1876, described in Mollusca (Art. 53. 2., ICZN). According to the Homonymy Rules of the ICZN, the name, *Striatella* Volynkin *et al*.,2019 is junior homonym, can not be used as a valid name for the taxon. There is no other synonym of *Striatella* Volynkin. Therefore, I wrote a message [3] to Mr Volynkin, the corresponding author of the related paper, on 18 January 2020. I repeated this message on 22 February. Unfortunately, I received no response from Mr. Volynkin up to now. For that reason, we propose here a replacement name. The necessary nomenclatural changes are given below briefly:

Genus: ***Ammatho*** Walker,1855
Subgenus: ***Avolynkinia* nomen novum**

http://zoobank.org/urn:lsid:zoobank.org:act:78E40680-2B79-4585-A4D0-BD64760F09B3

pro *Striatella* Volynkin & Huang,2019, Ecol. Montenegr. 26: 20-21, nec *Striatella* Brot,1870 (Amer. J. Conch. 6, App., 290), non *Striatella* Westerlund,1876 (Fauna Eur. Moll. Prodr. (1): 105) (Mollusca) (Neave,1939).
Type-species: *Lithosia hypoprepioides* Walker, 1862.
Totally 56 species were included under 11 species-groups (Volynkin *et al.,* 2019).
Etymology: We were unable to correspond with the first author, well known specialist of this group of Arctiinae. With the thought of being ethical, the replacement name is given to him, Anton Volynkin.

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[3] "Dear Dr Volynkin, I follow your publications with great interest. Finally, I read your enormous revisional study on Asura/Miltochrista generic complex. Among the new generic names you proposed, unfortunately Striatella (subgen.nov.) is junior homonym of Striatella Westerlund,1876 in Mollusca. (Fauna Eur. Moll. Prodr., (1) 105). If you agree with me, I think that you prepare a replacement name for it in a publication. If you do this, could you please send me a copy of your new publication? With my best wishes, Prof. Dr. Ahmet Omer Kocak".

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